# Medicolegal News and Views

Virginia Department of Health, Office of the Chief Medical Examiner Vol.19, #1, Spring 2018


## Cremation Authorizations by Virginia Medical Examiners

By: William T. Gormley, MD

§32.1-309.3 of the Code of Virginia states that no dead human body whose death occurred in Virginia shall be cremated or buried at sea, irrespective of the cause and manner of death, unless… a medical examiner appointed pursuant to § 32.1-282 has determined that there is no further need for medicolegal inquiry into the death. This translates that the purpose of cremation authorization is to assure that the death is not an unreported medical examiner case and if an unreported case is identified, the appropriate district office will investigate the death.

When completing a cremation authorization, the following is required:

1. Fully examine the unclothed decedent, making sure that all medical therapy is removed also to ensure that there is no unreported traumatic injury. Make sure to view the backside of the decedent as well.
2. Review the signed death certificate. The death certificate should list a specific cause of death and other pertinent diseases to document that the death is natural.
3. If the cause of death and other information listed on the death certificate does not clearly define a natural death, further inquiry into the cause of death listed on the death certificate is required **before** you sign the cremation authorization. The local medical examiner should ask appropriate questions to the treating physicians, involved medical facilities and others with knowledge of the circumstances surrounding the death. This information should be documented in the space on the lower left quadrant of the cremation certificate.
4. A copy of the completed cremation certificate along with a copy of the signed death certificate should be sent to the appropriate district office for review within 24 hours of signing the authorization.

The cremation certificate can be issued only when, based upon external examination, death certificate review, and further inquiry if necessary, there is no need for further medicolegal investigation of the death. A completed medical examiner's death certificate is usually adequate documentation that investigation is complete and the remains can be cremated.

**ANNOUNCEMENTS**

**Local Medical Examiner & Death Investigation Conference**
Manassas, VA
May 3 - 4, 2018

**OCME Scene Training**
Central:
4/17/18, 9am - 11am
Western :
4/25/18, 11am - 1pm
Northern :
5/3/18, 9:30am - 11:30am
Tidewater:
5/10/18, 1pm - 3pm

**Inside this issue:**



## Fatality Review & Surveillance Unit of the OCME

By: Ryan Diduk-Smith, PhD

The Fatality Review and Surveillance Unit is tasked with examining patterns, trends, and factors leading up to certain types of death. The aim of this unit is to identify needed changes in services through surveillance projects and fatality review team processes.

Currently, the Fatality Review and Surveillance Unit hosts several projects and each project produces reports to inform policy makers and citizens about issues vital to public health and safety. The unit uses two mechanisms in which to collect data for analysis and publication: 1) surveillance and 2) fatality review.

Surveillance is the systematic collection, analysis, and interpretation of data regarding specific health events. These surveillance projects work to identify the Virginians most at risk for sudden or violent death. These projects include:

- Family and Intimate Partner Homicide Surveillance
- Virginia Pregnancy-Associated Mortality Surveillance System (PAMSS)
- The Virginia Violent Death Reporting System
- Sudden Death in the Young Case Registry
- Enhanced Surveillance for Opioid Involved Morbidity and Mortality (no website)

Fatality review is a public health theory, designed to identify and understand risk factors for death. Multidisciplinary team members review medical, law enforcement, social service, education, military and other records relating to the decedent in order to improve understanding of how and why people die and to make recommendations for education training, and prevention efforts. These projects include:

- Adult Fatality Review
- Child Fatality Review
- Domestic Violence Fatality Review
- Maternal Mortality Review

For further information, please click one of the links above, visit http://www.vdh.virginia.gov/medical-examiner/fatality-review-surveillance-programs-reports/ or contact Dr. Ryan Diduk-Smith, Fatality Review and Surveillance Program Manager at 804.205.3856 or ryan.diduk@vdh.virginia.gov.

## American Board of Medicolegal Death Investigators (ABMDI)

By: Investigator Sanisha Bailey, F-ABMDI

The American Board of Medicolegal Death Investigators (ABMDI) is a voluntary national, not-for-profit, independent professional certification board, incorporated in 1998, that sets the standards of practice for medicolegal death investigations. These standards ensure that those certified have met the minimal requirements for adequate death investigation. ABMDI's purpose is to encourage adherence to high standards of professional practice and ethical conduct when performing medicolegal death investigations.

The certification, which last 5 years, is granted to the professional, not the death investigation system by which a professional is employed. Registry certification requires at least 640 hours of death investigation experience, verified completion of over 300 tasks, and passing a proctored exam. Board certification is an additional exam and is available only to experienced, registry certified individuals who have over 4,000 hours of experience in the past 6 years. All medicolegal death investigators employed by the Virginia OCME are required to obtain registry certification within the first two years of employment. Several investigators have also taken the additional challenge and are board certified. Recertification requires continued work in the field of death investigations and 45 hours of continuing education. Many of the trainings, including our bi-annual Local Medical Examiner Conferences, qualify for continuing education credit.

Did you know that some local medical examiners may be eligible to earn their ABMDI certification? According to ABMDI a death investigator is "as professional having the legal authority to investigate deaths for a medicolegal jurisdiction, who perform scene investigations, collects evidence and develops decedents' medical and social histories to assist the medical examiner/coroner in determining the cause and manner of death."[1] Local medical examiners who conduct scene investigations are eligible to apply once they have obtained 640 hours of death investigation experience.

ABMDI is not specific to Virginia. The standards set are nationwide. Knowing and adhering to these standards, ensure that the MDIs you work with are properly trained. Becoming ABMDI certified as a LME, will support your continued education in your service to the Commonwealth. Should you ever choose to leave the Commonwealth, the certification (and the additional letters after your name) will go with you.

If you are interested in learning more about ABDMI, and obtaining certification, please visit their website http://www.abmdi.org/.

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[1] http://www.abmdi.org/documents/PolicyAndProcedures.pdf

## Mass Fatality Management

By: Edward Kilbane, MD

It can occur in a flash. Suddenly, something happens, like a plane crash, a fire, an earthquake, or any type of catastrophe, and many are injured and killed. In a mass fatality incident, local capacity to recover, identify, certify, and return remains to loved ones is overwhelmed. When local resources are overwhelmed, whether it is by 10 fatalities or 3,000, it is a mass fatality incident.

Mass fatality management requires the coordinated efforts of multiple agencies and jurisdictions. Law enforcement, fire, emergency medical services, emergency management, public health, medical examiner, the funeral industry and others all play a role. The incident may involve state, local, federal, or even foreign governments.

With four separate regional offices, staffed by forensic pathologists, medicolegal death investigators, autopsy technicians, administrative staff, and local medical examiners, Virginia has many internal resources respond to manage a mass fatality event. The OCME has a mass fatality plan that coordinates with state and local disaster plans throughout the Commonwealth. In addition, Virginia coordinates disaster plans with the National Capital Region. If necessary, Virginia has access to additional resources from adjacent states and the District of Columbia through EMAC, and Federal resources if regional resources are overwhelmed.

The Virginia Office of the Chief Medical Examiner has three major responsibilities during a mass fatality incident: assist law enforcement with the scientific identification of the deceased, certify the cause and manner of death for each decedent and collect evidence, which may be necessary for criminal prosecution. To meet these responsibilities, the OCME is involved in many levels of the response. One of the most emotionally and technically difficult aspects of dealing with mass fatality events is helping community leaders to communicate appropriate expectations for scientific information and release of victims of a mass fatality incident, scientific identification whenever possible is the established standard for final identification.

Depending on the scale of the mass fatality incident, local Medical Examiners may be asked to help support investigations, assist with recovery of remains and conduct external examinations. They may accurately certify deaths, and help gather information to assure 100% accuracy of identification. To accomplish all of these tasks in a timely manner requires tremendous efforts by trained personnel, including Local Medical Examiners. The OCME is committed to working with law enforcement to identify all decedents in a scientific manner as quickly and efficiently as possible. While our legal responsibility is to help law enforcement identify the dead, collect evidence, and certify the deaths, the ultimate goal and focus of our response is always on the survivors and the loved ones of the deceased. We want to assure families that their loved ones are treated with respect while families are provided with compassionate care.

In the end, we hope to help those who have suffered the loss of loved ones with the best possible support to work through their grief. We understand that those who perish will always be missed. We work to support those affected so that they can successfully continue their own lives and to restore our communities.

## What to put for Cause of Death?

By: Gayle Suzuki, MD

Completing a death certificate is a very important duty of a physician, physician assistant and nurse practitioner, and especially for local medical examiners whose specialty is in determining cause and manner of death. Death certificates are frequently used as sources of information in determining statistics for epidemiological purposes, e.g. what are the leading causes of deaths, types of deaths, etc. In addition, what is listed as the cause of death has important implications for legal matters, insurance companies, and families. Therefore, death certificates are to be filled out as accurately as possible with the information that is available. Most of the issues that we encounter at the OCME deal with listing appropriate causes of death for natural and accidental deaths.

NATURAL DEATHS: For a death that is an unattended natural death, if there is a report that the decedent had a history of hypertension, COPD, diabetes, or any chronic disease processes, it is okay to list "complications of hypertensive cardiovascular disease", "complications of chronic obstructive pulmonary disease", etc. as a cause of death. If there is no known medical history, "arteriosclerotic cardiovascular disease" or "atherosclerotic cardiovascular disease" is acceptable. Knowing with certainty what caused the death is not a requirement for natural deaths; it is what you think is the most likely cause of death (top of your differential diagnosis), or best guess. Unacceptable causes of death include "cardiac arrest" or "cardiopulmonary arrest" as these are mechanisms of death and everybody that dies has them.

ACCIDENTAL DEATHS: For deaths that are due to injury (motor vehicle crash, falls, etc.), list what the injury/injuries are that cause death, e.g. "blunt force injuries of head and chest", "complications of hip fracture" etc. Please do NOT put "due to fall" or "due to motor vehicle crash" as these are to be put in the "Describe how injury relating to death occurred" portion of the death certificate.

The Local Medical Examiner Conferences that are held twice a year in different districts are excellent places to learn more about this as this is usually a topic in the LME Practicalities portion of the conference. As always, if you have any questions, please contact your district office.

## Cremation Authorizations by Virginia Medical Examiners

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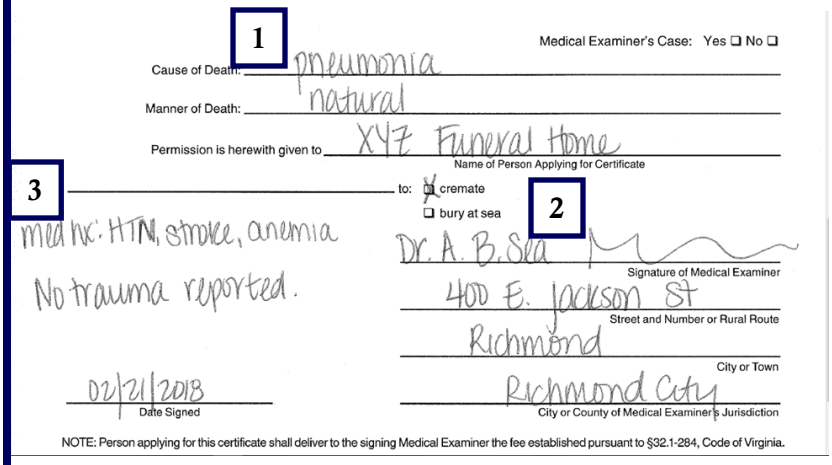
When is cremation authorization required or prohibited? Refer to the table below.

| Location of Death | Circumstances | Virginia Cremation Authorization |
|---|---|---|
| Virginia | Any Death | **REQUIRED** |
| Any Other State | Any Death | **PROHIBITED** |
| Virginia | Still Birth | Optional, not required |

Additional information when filling out a cremation certificate:

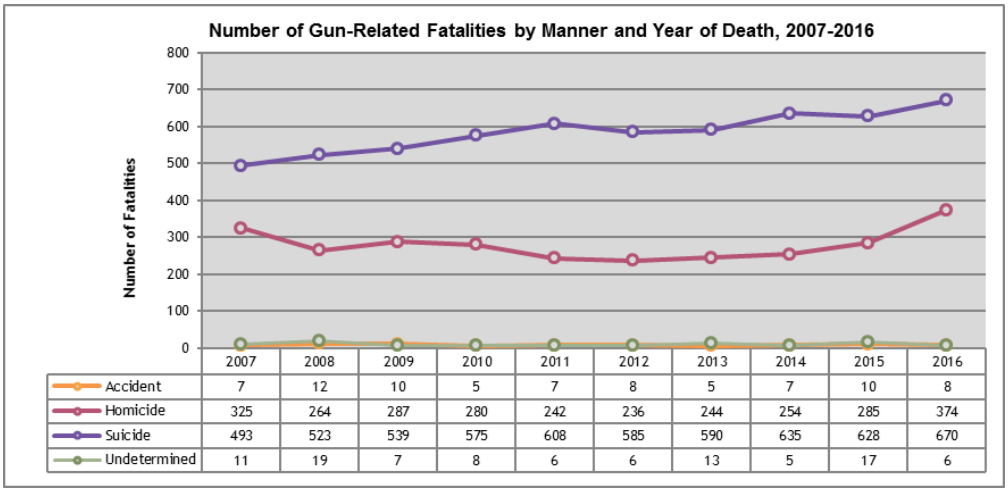
1. Pneumonia does not provide enough information about circumstances of the death. Pneumonia can be a complication of a GSW, rib fractures, hospital acquired disease, dysphasia, choking etc. This is the same issue for mechanisms of death such as respiratory failure, sepsis, cardiac arrest, etc.
2. Please print your name next to your signature. Unfortunately, we can't always read your signature.
3. Use the free space on the cremation certificate to make "personal inquiry into the cause and manner of death". After speaking with the signing MD or reviewing medical records, document what you found to support approval of the cremation. If you still have questions, follow up with the district office.



## Increase in Gun-Related Homicides in 2016

By: Rosie Hobron, MPH

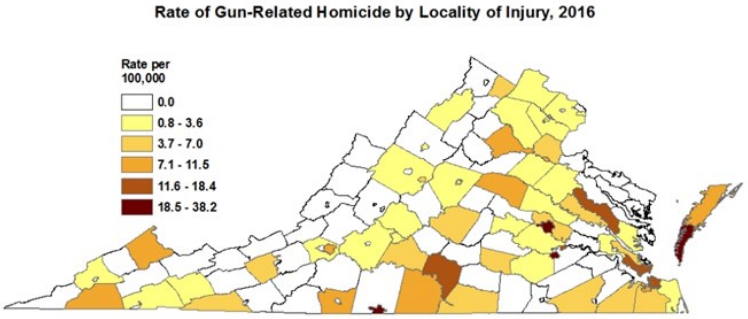
Gun-related death remains one of the top three leading methods of death in Virginia since 2007, along with fatal drug overdose and motor vehicle collisions. When gun-related deaths are stratified by manner of death, roughly two thirds each year are suicides, whereas roughly one third are homicides; less than one percent per year are made up of accidental and undetermined gun-related deaths. However, in 2016, gun-related homicides increased significantly from 2015 with an additional 89 gun-related homicides---a 31.2% increase statewide from the previous year. Homicides by any other method other than gun has maintained the near-exact same number over the last three years (105, 103, and 104 in 2014, 2015, and 2016, respectively).




| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|
| Accident | 7 | 12 | 10 | 5 | 7 | 8 | 5 | 7 | 10 | 8 |
| Homicide | 325 | 264 | 287 | 280 | 242 | 236 | 244 | 254 | 285 | 374 |
| Suicide | 493 | 523 | 539 | 575 | 608 | 585 | 590 | 635 | 628 | 670 |
| Undetermined | 11 | 19 | 7 | 8 | 6 | 6 | 13 | 5 | 17 | 6 |

When gun-related homicide numbers in 2016 were examined at the locality level and compared to the numbers from 2015, five localities stood out for significant increases from the previous year: Richmond City (22 additional), Norfolk (14 additional), and Hampton, Danville, and Prince William (each with 12 additional). Furthermore, Danville had the highest gun-related homicide rate by locality of event in 2016 with 38.2 deaths per 100,000 persons, followed by Petersburg (31.4) and Richmond City (27.8). Nearly 13% (N=48) of gun-related homicides in 2016 occurred in the month of November alone (an additional 18 fatalities than the average per month).

Notable changes in demographics of gun-related homicide from 2015 to 2016 were also identified. The number of male victims increased by 35.5% from 2015 to 2016 (additional 83 deaths). When age groups were examined, persons 20-24 and 35-44 years of age had significant increases (32.8% {n=21} and 102.6% {n=39}, respectively) from 2015 to 2016. Lastly, African Americans and Caucasians also demonstrated large increases in the number of victims from 2015 to 2016 (31.0% {n=63} and 27.9% {n=19}, respectively).




Increases in gun-related homicide are an obvious concern for health and public safety. The significant increase in gun-related homicide in 2016 occurred as Virginia simultaneously experienced a record setting increase in fatal drug overdose driven by the opioid crisis (increase of 38.9% from 2015 to 2016). Future research into the relationship between gun-related homicide and the drug crisis may prove productive and may detect interventions needed to prevent future deaths.

## SUDEP and the LME

By: Michael Hays, MD

Epilepsy is one of the most common neurological disorders in the United Stated and affects people of all ages. Approximately 3.4 million Americans suffer from epilepsy, with an additional 150,000 new cases diagnosed every year. Despite maximal medical therapy, approximately one-third of epilepsy patients live with uncontrollable seizures, and this bring substantial risks. Among them is SUDEP (Sudden Unexpected Deaths in Epilepsy). While we often think of secondary injury (such as related to falls or driving) as one of the most dangerous complications of epilepsy, SUDEP is actually the most common cause of death related to epilepsy. More than 1 in 1,000 adults and 1 in 4,500 children with epilepsy die annually from SUDEP, yet this condition remains relatively unknown to the general public, and even o many clinicians. What is SUDEP?

SUDEP is defined as the sudden and unexpected death of a person with epilepsy, without a toxicological or anatomical cause of death detected during port-mortem examinations, and excluding deaths cause by trauma, drowning, or status epilepticus. SUDEP occur most often at night or during a sleep period. There may be evidence that the patient had a seizure before dying, but this is not always the case.

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## SUDEP and the LME

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The pathophysiology of SUDEP remains poorly understood but is likely multifactorial. Leading hypotheses include a seizure-induced apneic event or cardiac dysrhythmia, as seizures may disrupt vital areas of the brainstem that control critical body functions.

Why is SUDEP important to a local medical examiner? Although in 60% of cases the etiology of epilepsy remains unknown, many conditions may predispose a person to seizures; unprovoked seizures may follow stroke, neoplasia, infection, and (most critically for our purposes) trauma. Approximately 4% of epilepsy cases have traumatic origin. Cases of possible SUDEP where the seizures are secondary to trauma need to be reported to the OCME for further investigation, as the manner of death may be accident or even homicide depending on the circumstances of the trauma. If when reviewing a cremation certificate you should see SUDEP (or other seizure-related verbiage) listed as a cause of death without further qualification, probing the underlying cause of epilepsy is critical to making appropriate case disposition. As a scene responder, you will have a vital information-gathering role in cases of suspected SUDEP. Here are a few things to take note of when investigating potential SUDEP.

- Elicit the seizure history. When were seizures first diagnosed? Of what type are the seizures? When was the last known seizure, and how frequent are they? Did the patient have any known seizure triggers? What is the cause of the seizures, if known? It's important to remember that a patient's seizures must be unprovoked to make a diagnosis of epilepsy; the term does not apply to patients whose seizures are caused by a known, reversible medical condition, like alcohol withdrawal or hypoglycemia. This can be a source of confusion for family members and law enforcement.
- Elicit a treatment history. Have there been past hospitalizations for seizures? What anti-seizure medications are prescribed, and by whom? Are there any at the scene? Do they appear appropriately used? Non-compliance with medical therapy is a known risk factor for SUDEP.
- Reconstruct the terminal event. What were the circumstances of discovery? Where is the patient, and what were they doing when last seen alive? SUDEP is most likely to occur during/following a sleep period. How was the body positioned when found? Was there a witnessed seizure at the time of death? If not, is there any physical indication of a seizure? Look for jumbled bedsheets, clenched fists, evacuation of the bladder or bite marks on the tongue.
- Evaluate for other possible causes of death. Are there any illicit drugs on scene? Could the death be from trauma or drowning following a seizure? Was the patient driving at the time of the death? Is there any visible injury? Is there any water in the area? Even a relatively shallow puddle can be lethal during the incapacitation brought on by a seizure. Cases of drowning or traumatic death following a seizure do not qualify as SUDEP but will still fall under the medical examiner's jurisdiction.

Note that many of the above questions may also be useful when investigating the clinical history for purposes of cremation certification. All of these data points will inform the case disposition. While the majority of deaths related to seizures will not fall under the jurisdiction of the OCME, your attention to details like these will help ensure that critical cases are not overlooked.

### Upcoming Local Medical Examiner Conference

The next conference will be held in at the Northern OCME District Office in Manassas, Virginia for May 3-4, 2018. Registration and hotel information was distributed via e-mail on 3/12/2018.

May 3rd: Hands-on scene training will be held in the morning, lunch offsite independently, then a presentation on anthropology, specifically human and non-human skeletal remains with a hands-on activity

May 4th: All day presentations including LME Practicalities, Asphyxial Deaths, Forensic Neuropathology, Weapons of Mass Destruction, Mass Fatality Incidents, and Postmortem Changes. Continental breakfast and a lunch will be provided on May 4th.

This is going to be a great conference and I hope you can join us. Please remember that you are required to attend at least one LME conference to stay active as a local medical examiner.

### Website for LMEs:

Reminder: There is a website that is a resource tool for you! The password for the website is located in your appointment or reappointment letter. The website has fillable pdf versions of documents that you are using during your LME duties as well as additional information. If you have any suggestions or would like to have additional learning tools and PowerPoints added to the website, please reach out and let me know!

Website: http://www.vdh.virginia.gov/medical-examiner/local-medical-examiner-login/

**Mission of the OCME:** *Provide state of the art, high quality, professional medicolegal death investigation for all citizens of the Commonwealth regardless of their geographic location.*

### FROM THE EDITOR

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Comments, suggestions and questions are welcome.